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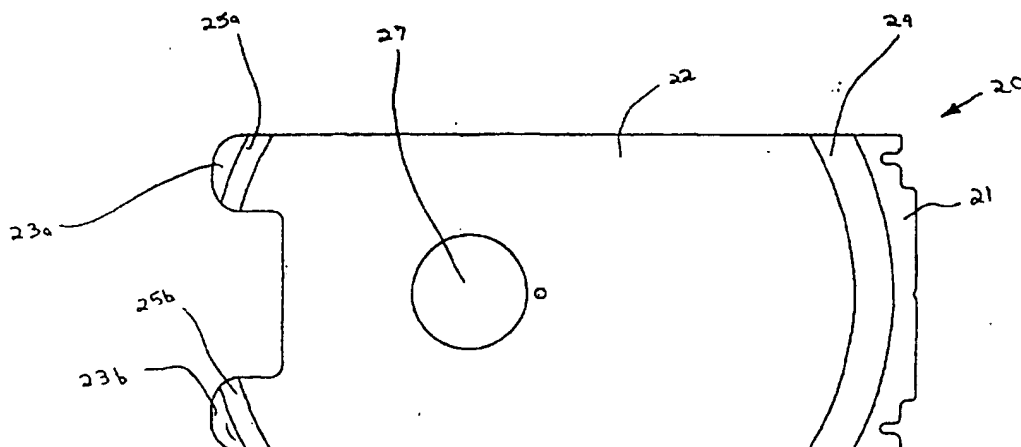
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(54) **End effector for semiconductor wafer transfer device and method of moving a wafer with an end effector**

(57) An end effector (20) for a transfer robot (10) used in connection with the manufacture of semiconductor wafers is provided. The end effector is designed to handle very thin (.005" - .010") semiconductor wafers (W) which tend to bow during processing. The robot blade or end effector includes a deep pocket (26) for receiving a bowed wafer. The depth of the pocket may be varied depending upon the degree of bowing in the

wafers to be handled. Unlike ordinary wafer transfer devices, the present invention requires the wafer to be transferred with the surface bearing the devices facing down. The deep pocket allows the end effector to contact only the edges of the wafer, thus minimizing any defects across the wafer due to handling. The pocket opening is provided with arcuately shaped sloped wafer contact surfaces (24, 25a, 25b) to prevent wafer sliding during robot movement.



**FIG. 3**



FIG. 4



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## EUROPEAN SEARCH REPORT

Application Number  
EP 96 30 6581

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP 0 669 642 A (APPLIED MATERIALS INC) 30 August 1995	1-5, 12, 14, 25-28	H01L21/00
A	* column 6, line 25 - column 7, line 24; claims 19, 20; figures * ---	11, 17	
A	US 5 314 294 A (TANIGUCHI TAKAO ET AL) 24 May 1994 * figures * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H01L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 18 March 1999	Examiner Rieutort, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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The members are as contained in the European Patent Office EDP file on  
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18-03-1999

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